

Trucking and Warehousing

(SIC 42)

SIGNIFICANT POINTS

- Most jobs require no formal education, but truckdrivers must meet qualifications and standards established by State and Federal regulations.
- Truckdrivers hold one-half of all trucking and warehousing jobs.
- Job opportunities are expected to be good for qualified truckdrivers and service technicians.

Nature of the Industry

Firms in the trucking and warehousing industry provide a link between manufacturers and consumers. Businesses, and occasionally individuals, contract with trucking and warehousing companies to pick up, transport, store, and deliver a variety of goods. Increasingly, trucking and warehousing firms provide “logistics services” in addition to traditional transportation, warehousing, and storage services. Logistics services include a range of services related to the distribution of goods, such as inventory control and management, order entry and fulfillment, labeling, light assembly, packaging, and price marking. This industry includes two distinct segments, local and long distance trucking and terminals and public warehousing and storage.

Local and long distance trucking and terminals provide over-the-road transportation of cargo using motor vehicles, such as trucks and tractor trailers. This industry segment is further subdivided based on distance traveled and the type of goods delivered. Local trucking establishments primarily carry goods within a single metropolitan area and its adjacent nonurban areas. Long distance trucking establishments carry goods between distant areas. Courier service establishments handle individual letters and light packages.

Local trucking comprised over 60,000 trucking establishments in 1997. The work of local trucking firms varies depending on the products transported. Produce truckers usually pick up loaded trucks early in the morning and spend the rest of the day delivering produce to many different grocery stores. Lumber truckdrivers, on the other hand, make several trips from the lumber yard to one or more construction sites. Some local truck transportation firms also take on sales and customer relations responsibilities, in addition to delivering the firm’s products. Some local trucking firms specialize in local furniture moving, garbage collecting and trash removal, or hauling dirt and debris.

Long-distance trucking firms account for a majority of the jobs in the trucking and warehousing industry. Numbering nearly 50,000 establishments, this sector comprises establishments primarily engaged in providing long-distance trucking between distant areas and sometimes between the United States and Canada and Mexico. These establishments handle a wide variety of commodities, transported in numerous types of equipment—from refrigerated trailers to flatbeds. Included in this industry are establishments operating as truckload (TL) or less than truckload (LTL) carriers.

Truckload carriers move large amounts of goods directly to their destination usually with no stops in between. These

long-distance carrier establishments provide full truck movement of freight from the shipment’s origin to its destination. The shipment of freight on a truck is characterized as a full single load not combined with other shipments.

Less-than-truckload carriers pick up multiple shipments and bring them to a terminal, where they are unloaded and then reloaded by destination to be carried to distant terminals near the shipments’ destination, from where they are delivered. Through a national or regional network of terminals, activities of LTL carriers include local pickup, local sorting and terminal operations, line-haul of freight, destination sorting and terminal operations, and local delivery.

Some goods are carried across country using “intermodal” transportation to save time and money. This can be any combination of truck, train, plane, or ship. Typically, trucks perform at least one leg in the transportation of goods. For example, a tractor-trailer delivers a load of goods to a railroad terminal. The trailer is hoisted onto a train, hauled across country, unloaded from the train, and hauled by truck to the final destination. Goods can be transported at lower cost this way, but they cannot be highly perishable, such as fresh produce, nor have strict delivery time schedules. Trucking still dominates the transportation of perishable and time-sensitive goods.

Courier services establishments deliver letters, parcels, and small packages under 100 pounds, usually within the confines of a metropolitan area. They were one of the fastest growing segments of the industry in the 1980s. (Companies that use aircraft to deliver small items to distant destinations are part of the air transportation industry also included in the *Career Guide*.)

Motor freight transportation terminals are mostly operated by large trucking companies. However, there were nearly 320 independent terminals not affiliated with trucklines in 1997. Many of these independent terminals break down truckloads of produce and other foods into shipments to area wholesalers. Many terminals also offer truck maintenance and repair services.

Public warehousing and storage facilities comprised over 12,000 establishments in 1997. These firms were primarily engaged in operating warehousing and storage facilities for general merchandise and refrigerated goods. They provided facilities to store goods; self-storage mini-warehouses that rent to the general public are also included in this segment of the industry.

Deregulation of interstate trucking in 1980 encouraged many firms to begin providing a wide range of logistical services that complement trucking and warehousing services.

Companies attempted to compete with each other by offering lower rates and unique services for individual customers. This has led to innovations in the distribution process and opened opportunities for customer-oriented services. Logistical services such as computerized inventory information on the location, age, and quantity of goods available can improve the efficiency of relationships between manufacturers and customers. “Just-in-time” shipping, in which trucking companies deliver goods from suppliers just in time for their use, allows recipients to reduce their inventories but requires constant communication and the transferal of accurate information. Packaging, labeling, and repairing manufacturers’ products are another service that warehousing establishments use to attract potential customers. The growth of logistics services has blurred the distinction between trucking and warehousing. Many trucking companies have expanded into services encompassing the entire transportation process—including inventory management, materials handling, and warehousing—and are often referred to as “third-party logistics providers.”

Working Conditions

In the trucking and warehousing industry in 1998, workers averaged 40.0 hours week, compared to an average of 34.6 hours for all private industries.

The U.S. Department of Transportation governs work hours and other working conditions of truckdrivers engaged in interstate commerce. For example, a long-distance driver generally cannot work more than 60 hours in any 7-day period. Many drivers, particularly on long runs, work close to the maximum time permitted because employers usually compensate them based on the number of miles or hours they drive. Drivers frequently travel at night, on holidays, and weekends to avoid traffic delays and to deliver cargo on time.

Truckdrivers must cope with a variety of working conditions including variable weather and traffic conditions, boredom, and fatigue. Many truckdrivers, however, enjoy the independence and lack of supervision found in long-distance driving. Local truckdrivers often have regular routes or assignments that allow them to return home in the evenings.

Improvements in roads and trucks are reducing stress and increasing the efficiency of long-distance drivers. Many advanced trucks have the capacity to be a mini apartment on wheels. Sleeper cabs are equipped with refrigerators, televisions and beds for the driver’s convenience. Included in some of these state-of-the-art vehicles is a satellite link with the company headquarters. Troubleshooting mechanical problems, directions, weather reports, and other important communications can be delivered to the truck from anywhere in the country in a matter of seconds. This keeps the trucker in communication with the dispatcher to discuss delivery schedules and courses of action should there be bad weather or mechanical problems. It also allows the dispatcher to track the location of the truck and monitor fuel consumption and engine performance.

Truck mechanics and service technicians usually work indoors, although they occasionally make repairs on the road. Minor cuts, burns, and bruises are common, but serious accidents can be avoided when the shop is kept clean and orderly and safety practices observed. Mechanics and service technicians handle greasy and dirty parts and may stand or lie in awkward positions to repair vehicles and equipment. They

usually work in well lighted, heated, and ventilated areas, but some shops are drafty and noisy.

Freight, terminal, and warehouse workers usually work indoors, though they may do occasional work on trucks and forklifts outside. Some occasions warrant heavy lifting and other physical labor.

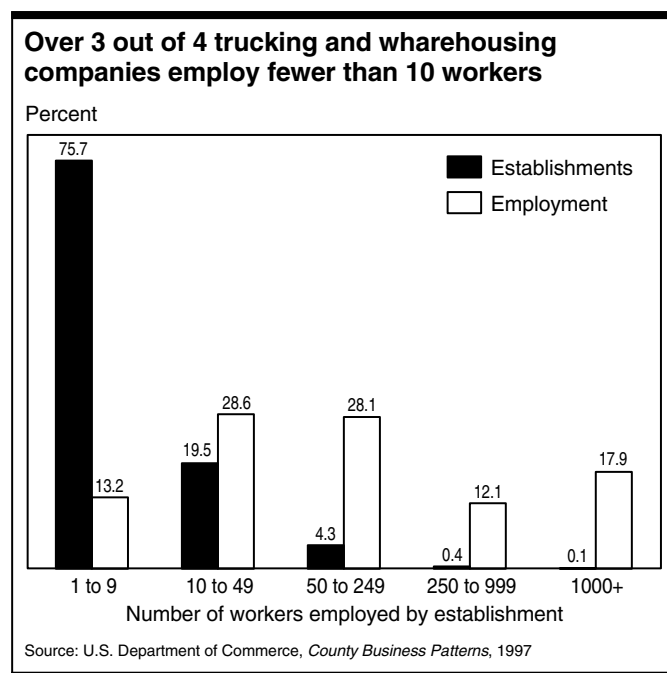
Safety is a major concern of the trucking and warehousing industry. The operation of trucks, lifts, and other technically advanced equipment can be dangerous without proper training and supervision. Efforts are underway to standardize the training programs to make the drivers more efficient and effective truck operators. Truckdrivers already must adhere to federally mandated certifications and regulations. Federal mandates require drivers to submit to drug and alcohol tests as a condition of employment and more employers also require periodic checks while on the job.

In 1997, work-related injuries and illnesses in the trucking and warehousing industry averaged 10.0 per 100 full-time workers, higher than the 7.1-incidence rate for the entire private sector. About 4 out of 5 on-the-job fatalities in the trucking and warehousing industry resulted from motor vehicle accidents.

Employment

The trucking and warehousing industry provided more than 1.7 million wage and salary jobs in 1998. About half of the workers in the industry, 881,000, were truckdrivers. Other operators, fabricators, and laborers numbered 265,000, and another 285,000 workers were in various administrative support occupations. There were 50,000 bus and truck mechanics and diesel engine specialists; 56,000 blue-collar worker supervisors; 114,000 executives, administrators, and managers; and 34,000 marketing and sales workers.

Most employees in the trucking and warehousing industry work in small establishments. Over 3 out of 4 trucking and warehousing establishments employ fewer than 10 workers (chart). Although there are some large national and regional trucking companies, they face constant competition. About 15



percent of truckdrivers operate their own business. Although these owner-operators constantly enter the industry each year, intense competition has caused many to eventually fail.

Trucking and warehousing establishments are found throughout the United States, with a slightly higher concentration located in California, New Jersey, and Texas.

Occupations in the Industry

Operators, fabricators, and laborers comprise 66 percent of the jobs in the industry (table 1). *Truckdrivers*, who comprised 51 percent of employment in this industry, transport goods from one location to another. They ensure safe delivery of cargo to a specific destination, often by a designated time. Drivers also perform some minor maintenance work on their vehicles and make routine safety checks.

The length of trips varies according to the merchandise being transported and its final destination. Local drivers provide regular service while other drivers make inter-city and interstate deliveries that take longer and may vary from job to job. The driver's responsibilities and assignments change according to the time spent on the road and the type of payloads transported.

Local drivers usually work more normal schedules and return home at the end of the day. They may deliver goods to stores or homes, or haul away dirt and debris from excavation sites. Many local drivers cover the same routes daily or weekly. Long-distance truckdrivers often are on the road for long stretches of time. Their trips vary from an overnight stay to a week or more. On longer trips, drivers sometimes sleep in bunks in their cabs or share driving with another driver.

Helpers, laborers, and material movers help load and unload freight and move it around warehouses and terminals. Often these unskilled employees work together in groups of three or four. They may use conveyor belts, hand trucks, or forklifts to move freight. They may place heavy or bulky items on wooden skids or pallets and have industrial truck and tractor operators move them.

Administrative support workers perform the daily record keeping operations for the trucking and warehousing industry. *Dispatchers* coordinate the movement of freight and trucks. They provide the main communication link that informs the truckdrivers of their assignments, schedules, and routes. Often dispatchers receive new shipping orders on short notice and must juggle drivers' assignments and schedules to accommodate a client. *Shipping, receiving, and traffic clerks* keep records of shipments arriving and leaving. They verify the contents of trucks' cargo against shipping records. They may also pack and move stock. *Billing, cost, and rate clerks* maintain company records of the shipping rates negotiated with customers and shipping charges incurred; they also prepare customer invoices.

Precision production, craft, and repair workers generally enter these jobs only after acquiring experience in related jobs or after receiving specialized training. For example, laborers and material movers who demonstrate their dependability and capability for handling responsibility may advance to *blue-collar worker supervisor* jobs. They oversee other workers in the warehouse or terminal. Most *mechanics and service technicians* require special vocational training. Mechanics and service technicians in trucking and warehousing firms perform preventive safety checks as well as routine service and repairs. Mechanics and service technicians sometimes are

promoted to parts-manager positions. Parts managers keep the supply of replacement parts needed to repair vehicles. Parts managers monitor the parts inventory using a computerized system, and purchase new parts to replenish supplies. These employees need mechanical knowledge and must be familiar with computers and purchasing procedures.

Marketing and sales workers sell trucking and warehousing services to shippers of goods. They meet with prospective buyers, discuss the customer's needs, and suggest appropriate services. Travel may be required, and many analyze sales statistics, prepare reports, and handle some administrative duties.

Executive, administrative, and managerial staff provide general direction to the firm. They staff, supervise, and provide safety and other training to workers in the various occupations. They also resolve logistical problems such as forecasting transportation demand, mapping out the most efficient traffic routes, order processing, parts and equipment service support, and transportation of goods to the right place at the right time.

Table 1. Employment of wage and salary workers in trucking and warehousing by occupation, 1998 and projected change, 1998-2008

(Employment in thousands)			
Occupation	1998		1998-2008 Percent change
	Number	Percent	
All occupations	1,745	100.0	11.4
Operators, fabricators, and laborers ...	1,146	65.7	14.6
Truck drivers	881	50.5	17.8
All other helpers, laborers, and material movers, hand	103	5.9	-7.1
Industrial truck and tractor operators	58	3.3	9.3
Refuse collectors	26	1.5	18.9
Hand packers and packagers	21	1.2	12.7
Administrative support, including			
clerical	285	16.4	2.1
General office clerks	52	3.0	11.8
Dispatchers	41	2.4	4.5
Office and administrative support supervisors and managers	28	1.6	7.6
Bookkeeping, accounting, and auditing clerks	23	1.3	-11.0
Stock clerks and order fillers	21	1.2	15.6
Secretaries	21	1.2	-13.4
Billing, cost, and rate clerks	20	1.1	-11.8
Shipping, receiving, and traffic clerks	19	1.1	6.3
Precision production, craft, and			
repair	140	8.1	8.4
Blue-collar worker supervisors	56	3.2	10.5
Bus and truck mechanics and diesel engine specialists	50	2.9	7.2
Machinery mechanics, installers, and repairers	16	0.9	5.9
Executive, administrative, and			
managerial	114	6.5	6.8
General managers and top executives	53	3.0	6.2
Communication, transportation, and utilities operations managers	26	1.5	8.7
Marketing and sales	34	1.9	9.2
All other occupations	25	1.4	13.7

Training and Advancement

Most jobs in the trucking and warehousing industry require only a high school education, although many employers prefer to hire employees with a high school diploma. For the positions requiring higher education, several universities offer “logistics” graduate and undergraduate programs. These programs emphasize the tools necessary to manage the distribution of goods. A growing number of employers recommend some form of formal training either in-house or through trade or union programs. Although, the Federal Government does not mandate these programs, the trend is toward certification and standardized competency.

Whereas many States allow those who are 18 years old to drive trucks within State borders, the U.S. Department of Transportation establishes minimum qualifications for truckdrivers engaged in interstate commerce. Federal Motor Carrier Safety Regulations require truckdrivers to be at least 21 years old, have at least 20/40 vision and good hearing, and be able to read and speak English. They must also have good driving records. In addition, drivers must have a State commercial driver’s license, for which they must pass a written examination and a skills test operating the type of vehicle they will be driving. Individual companies often have additional requirements applicants must meet.

Some truckdrivers enter the occupation by attending training schools for truckdrivers. Schools vary greatly in the quality of training they provide, but they are becoming more standardized. Many employers and some States support these programs.

Some large trucking companies have formal training programs that prospective drivers attend. Other companies assign experienced drivers to teach and mentor newer drivers. Local trucking firms often start drivers as truckdriver helpers. As they gain experience and demonstrate their reliability, they receive assignments with greater earnings or preferred work schedules. Because of increased competition for experienced drivers, some larger companies lure these drivers with increased pay and preferred assignments. Some trucking firms hire only experienced drivers.

Some long-distance truckdrivers purchase a truck and go into business for themselves. Although many of these owner-operators are successful, some fail to cover expenses and eventually go out of business. Owner-operators should have good business sense as well as truckdriving experience. Courses in accounting, business, and business mathematics are helpful, and knowledge of truck mechanics can enable owner-operators to perform their own routine maintenance and minor repairs.

Unskilled employees may work as helpers, laborers, and material-movers in their first job. They must be in good physical condition because the work often involves a great deal of physical labor and heavy lifting. They acquire skills on the job and often advance to more skilled jobs in other occupations with which they work closely, such as industrial truck operator, truckdriver, shipping and receiving clerk, or supervisor.

Administrative support jobs in the trucking and warehousing industry require good typing skills and usually some familiarity with computers. Shipping and receiving clerks watch and learn the skills of the trade from more experienced workers while on the job. Stock clerks and truckdrivers often advance to dispatcher positions after becoming familiar with company operations and procedures.

While some diesel mechanics and service technicians learn the trade on the job, most employers prefer to hire graduates of programs in diesel mechanics offered by community and junior colleges or vocational and technical schools. Those with no training often start as helpers to mechanics, doing basic errands and chores such as washing trucks or moving them to different locations. Experience as an automotive mechanic is helpful because many of the skills relate to diesel mechanics. Experienced mechanics and service technicians may advance to shop supervisor or parts manager positions.

For managerial jobs in the trucking and warehousing industry, employers prefer persons with bachelor’s degrees in business, marketing, accounting, industrial relations, or economics. Although a few universities offer logistics programs, most managers must learn logistics through extensive training on the job. Good communication, problem solving, and analytical skills are valuable in entry level jobs. Managers hired for entry level logistics positions sometimes advance to top level managerial jobs.

Some college graduates and persons without a college degree enter sales or administrative positions. Marketing and sales workers must be familiar with their firm’s products and services and have strong communication skills.

Earnings

Average earnings in the trucking and warehousing industry are higher than the average for all private industry, as shown in table 2. The average wage in the trucking sector of the industry was higher than the average wage in warehousing. Earnings in selected occupations in trucking and warehousing appear in table 3.

Table 2. Average earnings of nonsupervisory workers in trucking and warehousing, 1998

Industry segment	Weekly	Hourly
All private industry	\$442	\$12.77
Trucking and warehousing	545	13.62
Trucking and courier services, except air	554	13.85
Public warehousing and storage	449	11.16

Most employers compensate truckdrivers with an hourly rate or a rate-per-mile system. Truckdrivers who operate heavy tractor-trailers generally have higher earnings than those who drive light delivery trucks. Benefits, including performance related bonuses, health insurance, and sick and vacation leave are common in the trucking industry.

The major union in the trucking and warehousing industry is the International Brotherhood of Teamsters. About 21 percent of trucking and warehousing workers are union members or are covered by union contracts, compared to 15.4 percent of workers in all industries combined. Some trucking companies use “double breasting” in an attempt to lower labor costs. This involves employing union as well as non-union operating divisions. Other companies use multi-tier wage scales and pay lower wages for new hires. Pay increases after predetermined periods of time and safe driving records.

Table 3. Median hourly earnings of the largest occupations in trucking and warehousing, 1997

Occupation	Trucking and warehousing	All industries
General managers and top executives ...	\$24.04	\$26.05
First-line supervisors and managers/ supervisors-transportation and material moving machine and vehicle operators	16.46	17.08
Truck drivers, heavy or tractor-trailer	14.09	13.08
Dispatchers, except police, fire and ambulance	13.95	12.26
First-line supervisors and managers/ supervisors-clerical and administrative support workers	13.91	14.26
Bus and truck mechanics and diesel engine specialists	12.43	13.62
Industrial truck and tractor operators	11.43	10.99
Truck drivers, light, including delivery and route workers	10.83	9.38
Refuse and recyclable material collectors	9.93	10.19
General office clerks	9.20	9.10

Outlook

The number of wage and salary jobs in the trucking and warehousing industry is expected to grow 11 percent from 1998 through 2008, compared to projected growth of about 15 percent for all industries combined. Because the industry is large, many job openings will result. A large number of job openings will also result from the need to replace workers who transfer to other industries or retire. Opportunities in this industry should be good for qualified truckdrivers and service technicians.

One of the main factors influencing the growth of the trucking and warehousing industry is the state of the national economy. Growth in the industry parallels economic upswings and downturns. As the national economy grows, production and sales of goods increase, thus increasing the demand for transportation services to move goods from producers to consumers. In a recession, the industry is one of the first to slow down as orders for goods and shipments decline.

Competition in the trucking and warehousing industry is intense, both among trucking companies and, in some long-haul truckload segments, with the railroad industry. In response to the need to increase efficiency and improve customer service, the trucking and warehousing industry is evolving and offering logistical services such as inventory management and “just-in-time” shipping.

Opportunities for qualified truckdrivers are expected to be favorable. In some areas, companies have experienced difficulties recruiting adequately skilled drivers. Truckdriving pays

relatively well, but many persons leave the career because of the lengthy periods away from home, long hours of driving, and the negative public image drivers face. Stricter requirements for obtaining—and keeping—a commercial driver’s license also make truckdriving less attractive as a career. Opportunities for diesel mechanics and service technicians are also expected to be favorable for applicants with formal post-secondary mechanical training.

Steady growth in the trucking and warehousing industry should prompt an increase in administrative support employment. More dispatchers, stock clerks, and shipping, receiving, and traffic clerks will be needed to support expanded logistical services across the country. However, fewer secretaries, bookkeepers, and file clerks will be needed because computers and other automated equipment will make workers in these occupations more efficient and productive.

Courier and delivery services has been one of the most rapidly growing segments of the industry. Employment is expected to increase about as fast as the industry even as competition from overnight air-courier firms, business use of facsimile (or “fax”) machines, and electronic mail (e-mail) moderates growth.

Sources of Additional Information

For additional information about careers and training in the trucking and warehousing industry, write to:

- American Trucking Associations, 2200 Mill Rd., Alexandria, VA 22314.
Internet: <http://www.truckline.com>
- American Trucking Associations Foundation, 660 Roosevelt Ave., Pawtucket, RI 02860.
- International Warehouse Logistics Association, 1300 W. Higgins, Suite 111, Park Ridge, IL 60068.
Internet: <http://www.warehouselogistics.org>
- International Association of Refrigerated Warehouses, 7315 Wisconsin Ave., Suite 1200N, Bethesda, MD 20814.
- Professional Truck Driver Institute, 2200 Mill Rd., Alexandria, VA 22314, or by calling (703) 838-8842.
Internet: <http://www.ptdia.org>

Detailed information on the following occupations can be found in the 2000-01 *Occupational Outlook Handbook*:

- Diesel mechanics and service technicians
- Dispatchers
- Handlers, equipment cleaners, helpers, and laborers
- Material moving equipment operators
- Manufacturers’ and wholesale sales representatives
- Shipping, receiving, and traffic clerks
- Truckdrivers